DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Caldwell et al. (US 5,958,137) in view of Zeiffer (US 6,395,088) and further in view of Martens et al. (US 4,181,752).

Regarding claim 1, Caldwell discloses a method for the controlled placement of a polymer composition on a moving web (analogous to continuous/discontinuous movement) (see abstract). A substrate is passed into a processing zone that includes a plurality of process heads. A polymer composition (e.g. a low-viscosity polymerizable material) is applied by a polymer applicator in a controlled manner while each process head is moveable horizontally along the processing zone (col. 5, lines 24-27, 34-35). After the polymerizable material is applied, the substrate is moved through a curing zone (col. 6, lines 7-9). The curing of the polymer composition (i.e. radiation crosslinkable material as per claim 9) is induced by either time, temperature, or radiation (col. 18, lines 8-14).

Caldwell does not disclose a movable applicator of a slot-like configuration or using polymerizable/cross-linkable material of an adhesive material.

Zeiffer teaches a coater for applying foamed coating material to a traveling textile substrate. The coater contains an applicator containing an open slot (i.e. substantially slot-like configuration) and is attached to a pivot shaft and used to pivot the applicator (e.g. a moveable, slot-like applicator) (see abstract and col. 4, lines 61-67; see Figs. 1 and 4).

Martens teaches a process for preparing an acrylic-type pressure sensitive adhesive (PSA) by means of ultraviolet radiation curing. The polymerizable layer (i.e.

polymerizable material) may contain acrylate-type monomers such as acrylic acid or methacrylic acid (col. 3, line 60). Martens also teaches using a photoactive cross-linking agent in conjunction with a photo-initiator to increase the cohesive strength of the adhesive (col. 5, lines 31-36).

It would be obvious to one skilled in the art at the time of the invention to incorporate Zeiffer's moveable slot-like applicator to apply Martens' polymerizable layer using Caldwell's method of two-dimensionally placing a polymer composition on a moving web to provide a more versatile method of creating streak-free adhesive patterns on items such as disposable diapers, training pants, and adult incontinence articles.

Regarding claim 2, Caldwell does not disclose of a specific low-viscosity precursor material thickness of 0.3 to 5 mm (as per claim 2). Martens teaches a process for preparing an acrylic-type pressure sensitive adhesive (PSA) by means of ultraviolet radiation curing. Martens discloses a polymerizable material layer thickness of up to 1.9 cm (col.4, lines 12-16). It would be obvious to one skilled in the art at the time of the invention to combine the teachings of Martens and Caldwell and to optimize the precursor material layer thickness in order to obtain a polymerizable layer that can be successfully cured to produce adhesive layers on items such as diapers, training pants, and adult incontinence articles.

As for claim 3, Caldwell does not specify a width range (3-50mm) to apply the precursor material. Caldwell, as modified by Zeiffer and Martens, discloses the claimed invention except where the low viscosity precursor material is applied in an applied

width of from 3 to 50mm to the substrate. It would have been obvious to one having ordinary skill in the art at the time the invention was made to apply a low viscosity precursor material on a moving web in order to cover the target area of the substrate. The dimensions of the moveable applicator used are limited only by the size of the available die technology, and thus, the low viscosity precursor applied width is a non-critical aspect to the present invention. It has been held that discovering an optimum value of a result effective variable involves only routine skill in the art in the absence of unexpected results. *In re Boesch, 617 E.2d 272, 205 USPQ 215 (CCPA 1980).*

As per claim 4, Caldwell teaches polymer composition (low-viscosity precursor material) having a viscosity of 1,000-2,000,000 centepoise, or 1-2000 Pas (col. 7, lines 43-45).

Regarding claim 5 and 7, Caldwell teaches that each process head that disposes the polymerizable material moves horizontally in the processing zone (col. 29, lines 29-31). The process heads are mounted on a frame assembly that includes vertical and horizontal support members to permit free movement (analogous to movement via robotic arm and movement of applicator perpendicularly to the conveying direction of the substrate) (see fig. 6 and 7; col. 30, lines 58-64). Each process head includes a carriage which rides on a rail (col. 31, lines 1-2).

Regarding claims 6, Caldwell teaches each process head that houses an applicator contains a blade holding assembly that holds a blade at a specific angle relative to the moving substrate (col. 29, lines 31-35). The angle of the blade(s) is/are

completely changeable and fully rotational to 360 degrees (col. 12, lines 13-14). However, Caldwell does not rotate the actual applicator.

Zeiffer teaches a coater for applying foamed coating material to a traveling textile substrate. The coater contains an applicator containing an open slot (i.e. substantially slot-like configuration) and is attached to a pivot shaft that is used to pivot the applicator (e.g. applicator is moved at and angle/perpendicularly to the substrate) (col. 4, lines 61-67; see Figs. 1 and 4). It would be obvious to one skilled in the art to adjust the angle of one or more moving applicators to the conveying direction of the substrate in the absence of a blade to control the film thickness of the polymerizable material and ultimately create a self contained adhesive pattern.

For claims 8 and 10, Caldwell discloses an applicator attached to the front of the process heads (see figures 3 and 5, col. 30, lines 1-3). Furthermore, a plurality of applicators may be attached to the front of each said process heads (col. 30, lines 56-57).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Francis P. Smith whose telephone number is (571) 270-3717. The examiner can normally be reached on Monday through Friday 7:30 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mikhail Kornakov can be reached on (571)272-1303. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

FPS

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